

Research Article

Pattern of cervical lesions, with emphasis on precancer and cancer in a tertiary care hospital of Southern India

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ABSTRACT

Background: Carcinoma cervix is the most common form of cancer in India. Screening is cost-effective but compliance is an issue. Most women present to hospitals at first visit. We studied the pattern of women with carcinoma cervix who presented to the gynecology outpatient department of a large hospital in southern India.

Methods: Women attending the gynecology outpatient department of King George hospital were evaluated for the presence of cervical lesions. A complete history was obtained. Biopsies from the cervix were obtained from the aceto-white areas, fixed in 10% buffered neutral formalin.

Results: 860 cervical biopsy specimens were received. By routine hematoxylin eosin stains, 180 had precancerous lesions and cancerous lesions with more than two risk factors; in the study period, a total of 253 cervical neoplasms were recorded: 103 were in the pre-cancerous stage (CINU1: 74; 71.84%, CIN II 20/103; 19.41%, CIN III 9/103; 8.73%). Of the 150 cancerous lesions, maximum were SCC non-keratinising (130; 92%). A subset (viz 45/180; 25%) were tested for HPV DNA using Polymerase Cycle Reaction (PCR). The commonest presenting symptom was leucorrhoea (40%). Most women reported age of first intercourse below 30 years. On visual examination of cervix, most (25; 55.55%) had exophytic growth and erosion (14; 31.11%). More than 80% (n: 24) presented in stage II and III cancer (n:27).

Conclusion: In this hospital based study from a large institution from Southern India, out of 860 cervical biopsy specimens studied, 180 (32.14%) had precancerous lesions and cancerous lesions with more than two risk factors.

Keywords: Leucorrhoea, Hygiene, Socioeconomic status

INTRODUCTION

Gender disparity in access to health care is well recognized in developing countries such as India.¹ Among non-communicable diseases, cancer of cervix occupies a prime position among malignancies in women. World-wide, cancer of cervix is responsible for one of leading cause of death, with developing countries accounting for nearly 80% of 500000 new cases per year.² In developing countries, it is the most common malignancy in women.³

The burden is worrisome because carcinoma cervix has known risk factors, has a long pre-clinical period when it can be effectively detected and treated.⁴

However, preventive measures are rarely practiced in India, and women often present to hospitals only when they are symptomatic.

Visakhapatnam is the largest city in Andhra Pradesh. It has a population of 1730320 according to the 2011 census. An earlier camp-based screening for cancer of

cervix in a slum area of the city showed that epithelial cell abnormalities were identified by Pap smears in 30 women (16.1%).⁵

King George hospital in the city is among the oldest hospitals in the country, catering to people from coastal Andhra Pradesh and adjoining areas of Orissa and Madhya Pradesh. The obstetrics and gynecology services were among the first to be commissioned in the fledgling institute.

The current prospective study was carried out in the gynecology outpatient department over a period of two years to assess the pattern of cervical lesions.

METHODS

Women attending the gynecology outpatient department of King George hospital were evaluated for the presence of cervical lesions.

A complete history was obtained of marital status, age at first sexual encounter, menstrual history, personal hygiene, number of conceptions, personal habits, exposure to sexually transmitted diseases, interval between children, history of abortions and use of contraceptive agents.

Gynecological examination consisted of speculum examination and bimanual vaginal examination. Biopsies from the cervix were obtained from the aceto-white areas, fixed in 10% buffered neutral formalin and transported to the department of pathology.

RESULTS

A total of 860 cervical biopsy specimens were received. Tissues were processed routinely and embedded in paraffin wax, taking care to fix for less than 24 hours. By routine hematoxylin eosin stains, 180 specimens had precancerous lesions and cancerous lesions with more than two risk factors. However in the study period, a total of 253 cervical neoplasms were recorded: 103 were in the pre-cancerous stage (CIN I: 74; 71.84%, CIN II 20/103; 19.41%, CIN III 9/103; 8.73%). Of the 150 cancerous lesions, maximum were SCC non-keratinising (130; 92%) with eight (5.33%) SCC keratinizing and four (2.66%) adenocarcinoma.

A subset (viz. 45/180; 25%) were tested for HPV DNA using polymerase cycle reaction (PCR), In the genotyped specimens, most cases occurred in the age group of 31-50 years (Table 1) with a few in those aged above 50 years. The commonest presenting symptom was leucorrhoea (40%) (Table 2). Most women reported age of first intercourse below 30 years (Table 3). On visual examination of cervix, most (25; 55.55%) had exophytic growth and erosion (14; 31.11%) (Table 4). More than 80% (n: 24) presented in stage II and III cancer (n: 27).

Table 1: Age distribution (n: 181).

Type of lesion	21-30 y	31-40 y	41-50 y	51-60 y	61-70 y
CIN 1	12	21	11	8	-
CIN 2	4	4	5	1	-
SCC Keratinising	1	-	2	3	-
SCC non-keratinising	12	17	29	25	17
Adenocarcinoma	-	-	1	2	-
Total	32	44	49	39	17

Table 2: Presenting complaints.

Symptom	No. of subjects (%)
Leucorrhoea	18 (40%)
Post-menopausal vaginal bleeding	9 (20%)
Menstrual disturbance	9 (20%)
Asymptomatic	9 (20%)

Table 3: Age at first sexual intercourse.

Age at first sexual intercourse (years)	No of HPV DNA+ cases (%)
10-20 (n: 22)	10 (58.82%)
21-30 (n: 20)	6 (35.29%)
>30 (n: 3)	1 (5.88%)
Total: 45	Total: 17

Table 4: Gross appearance of cervix.

Cervical findings	No. of cases
Hypertrophy	6 (13.33%)
Erosion	14 (31.11%)
Exophytic growth	25 (55.55%)
Total	45 (100%)

Table 5: Stage of cancer at presentation.

Stage of cancer	No. (%)
Stage 1	2 (7.4%)
Stage 2	9 (33.33%)
Stage 3	15 (55.55%)
Stage 4	1 (3.7%)
Total	27

DISCUSSION

In this hospital-based study from a large institution from southern India, out of 860 cervical biopsy specimens studied, 180 (32.14%) had precancerous lesions and cancerous lesions with more than two risk factors. Most were symptomatic, presenting with leucorrhoea, similar to a study performed at a general health care camp in Delhi were nearly 60% presented with gynec morbidity.³

Earlier reports also considered leucorrhoea as the presenting complaint to screen for carcinoma cervix (n: 100).⁴ However in a large series of 27,062 asymptomatic attendees to the gynecology out-patient department at Lucknow (1971-2004), routine cytopathological examination identified squamous intraepithelial lesion in 5.9% and carcinoma cervix in 0.6%,⁶ suggesting that focused screening of women presenting with leucorrhoea provides a better diagnostic yield.

Other risk factors in the etiology of cervical cancer include increasing age, longer duration of sexual activity, increasing parity,⁶ and viral infections with human papilloma virus and human immunodeficiency virus.² Low socioeconomic status and poor genital hygiene also contribute to the risk.⁷ Surprisingly a community based screening among ethnic Muslim population from Jammu and Kashmir did not identify any case of carcinoma cervix on screening 270 women aged between the ages of 20 and 65. It was attributed to socioeconomic factors such as low promiscuity and the practice of male circumcision.⁸

There have been few studies on the association of HPV 16 and 18 from India in relation to cervical lesions. Earlier studies by Key et al.⁹ (2003), You et al.¹⁰ (2007) and Qiu et al.¹¹ (2007) had lower prevalence of HPV 16 and HPV 18 with carcinoma cervix.

In summary women presenting with abnormal gynec symptom of leucorrhoea yielded a high rate of cervical lesions, both pre-cancerous and carcinoma cervix. HPV positivity was high compared to other studies.

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